



US 20020097838A1

(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2002/0097838 A1**
Saito (43) **Pub. Date: Jul. 25, 2002**(54) **ROTARY ANODE TYPE X-RAY TUBE APPARATUS****Publication Classification**(51) **Int. Cl.⁷** **H01J 35/10; H01J 35/24;**
..... **H01J 35/26; H01J 35/28**
(52) **U.S. Cl.** **378/130; 378/141; 378/200**(76) **Inventor:** Shin Saito, Otawara-shi (JP)**Correspondence Address:**
PILLSBURY WINTHROP, LLP
P.O. BOX 10500
MCLEAN, VA 22102 (US)(21) **Appl. No.:** 10/050,176(22) **Filed:** Jan. 18, 2002(30) **Foreign Application Priority Data**

Jan. 22, 2001 (JP) 2001-012698

(57) **ABSTRACT**

In a rotary anode type X-ray tube apparatus, a rotary anode target model X-ray pipe is received in housing. Housing is coupled by cooler device to supply a coolant in the housing. Anode target is fixed to a rotary cylinder, which is rotatably supported by a stationary shaft. The stationary shaft is provided with an inner hollow space for guiding the coolant. The coolant guided in the housing is split into two flowing streams, and one of the streams is introduced into the space for cooling of stationary shaft.

